

WHAT IS CLAIMED IS:

~~SUB
B1~~

1. A color image capturing device, comprising:
a substrate; and
a plurality of groups of image sensing elements, formed on said substrate, which respectively correspond to a plurality of colors;
5 wherein each of said groups of image sensing elements comprises:
a plurality of rows of image sensing elements, wherein image sensing elements in each of said plurality of rows are linearly arranged on said substrate;
wherein each of said rows of image sensing elements is offset with respect to
10 adjacent rows of image sensing elements by an amount which is smaller than the width of an image sensing elements in said plurality of rows of image sensing elements; and
wherein said rows of image sensing elements are arranged in parallel at a pitch equivalent to at least twice the height of said image sensing element.

2. The color image capturing device according to claim 1, wherein said plurality of groups of image sensing elements respectively correspond to the colors of red, green and blue.

3. The color image capturing device according to claim 1, wherein each of said groups of image sensing elements comprises:
a first row of image sensing elements; and
a second row of image sensing elements;
5 wherein said second row of image sensing elements is offset from said first row of image sensing elements by a predetermined amount which is equivalent to one half of the width of an image sensing element in said second row of image sensing elements.

4. The color image capturing device according to claim 2, wherein each of said groups of image sensing elements comprises:

a first row of image sensing elements; and

a second row of image sensing elements;

5 wherein said second row of image sensing elements is offset from said first row of image sensing elements by a predetermined amount which is equivalent to one half of the width of an image sensing element in said second row of image sensing elements.

10 5. The color image capturing device according to claim 1, wherein a shield is provided on a light-receiving surface of image sensing elements in said plurality of groups of image sensing elements, said shield having an opening which is smaller than a light-receiving area of said image sensing elements for shielding a periphery of said image sensing elements from light.

15 6. The color image capturing device according to claim 2, wherein a shield is provided on a light-receiving surface of image sensing elements in said plurality of groups of image sensing elements, said shield having an opening which is smaller than a light-receiving area of said image sensing elements for shielding a periphery of said image sensing elements from light.

20 7. The color image capturing device according to claim 3, wherein a shield is provided on a light-receiving surface of image sensing elements in said plurality of groups of image sensing elements, said shield having an opening which is smaller than a light-receiving area of said image sensing elements for shielding a periphery of said image sensing elements from light.

25 8. The color image capturing device according to claim 4, wherein a shield is provided on a light-receiving surface of image sensing elements in said plurality of groups of image sensing elements, said shield having an opening which is smaller than a

light-receiving area of said image sensing elements for shielding a periphery of said image sensing elements from light.

9. An image reader, comprising:

5 a color image capturing device comprising:

a substrate; and

a plurality of groups of image sensing elements, formed on said substrate, which respectively correspond to a plurality of colors;

wherein each of said groups of image sensing elements comprises:

10 a plurality of rows of image sensing elements, wherein image sensing elements in each of said plurality of rows are linearly arranged on said substrate;

wherein each of said rows of image sensing elements is offset with respect to adjacent rows of image sensing elements by an amount which is smaller than the width of an image sensing element in said plurality of rows of image sensing elements; and

15 wherein said rows of image sensing elements are arranged in parallel at a pitch equivalent to at least twice the height of said image sensing element;

20 a light source for irradiating a manuscript;

a plurality of mirrors for reflecting light emitted from said light source and for reflecting light reflected from a surface of said manuscript; and

a condenser lens for focusing said light reflected by said mirrors.

25 10. The color image capturing device according to claim 9, wherein said plurality of groups of image sensing elements respectively correspond to the colors of red, green and blue colors.

11. The color image capturing device according to claim 9, wherein each of said groups of image sensing elements comprises:

a first row of image sensing elements; and

a second row of image sensing elements;

5 wherein said second row of image sensing elements is offset from said first row of image sensing elements by a predetermined amount which is equivalent to one half of the width of an image sensing element in said second row of image sensing elements.

12. The color image capturing device according to claim 10, wherein each of said groups of image sensing elements comprises:

a first row of image sensing elements; and

a second row of image sensing elements;

10 wherein said second row of image sensing elements is offset from said first row of image sensing elements by a predetermined amount which is equivalent to one half of the width of an image sensing element in said second row of image sensing elements.

13. The color image capturing device according to claim 9, wherein a shield is provided on a light-receiving surface of image sensing elements in said plurality of groups of image sensing elements, said shield having an opening which is smaller than a light-receiving area of said image sensing elements for shielding a periphery of said image sensing elements from light.

14. The color image capturing device according to claim 10, wherein a shield is provided on a light-receiving surface of image sensing elements in said plurality of groups of image sensing elements, said shield having an opening which is smaller than a light-receiving area of said image sensing elements for shielding a periphery of said image sensing elements from light.

15. The color image capturing device according to claim 11, wherein a shield is provided on a light-receiving surface image sensing elements in said plurality of groups of image sensing elements, said shield having an opening which is smaller than a light-receiving area of said image sensing elements for shielding a periphery of said image sensing elements from light.

16. The color image capturing device according to claim 12, wherein a shield is provided on a light-receiving surface of image sensing elements in said plurality of image sensing elements, said shield having an opening which is smaller than a light-receiving area of said image sensing elements for shielding a periphery of said image sensing elements from light.

sub
A1

ADD
B2L

09335518-061899